West Nile Virus Newsletter

Zoonotic Disease Program, Washington State Department of Health

July 13, 2006 Volume 4, Issue 5

Purpose

To keep our partners and other interested entities informed about West Nile virus (WNV)

In This Issue

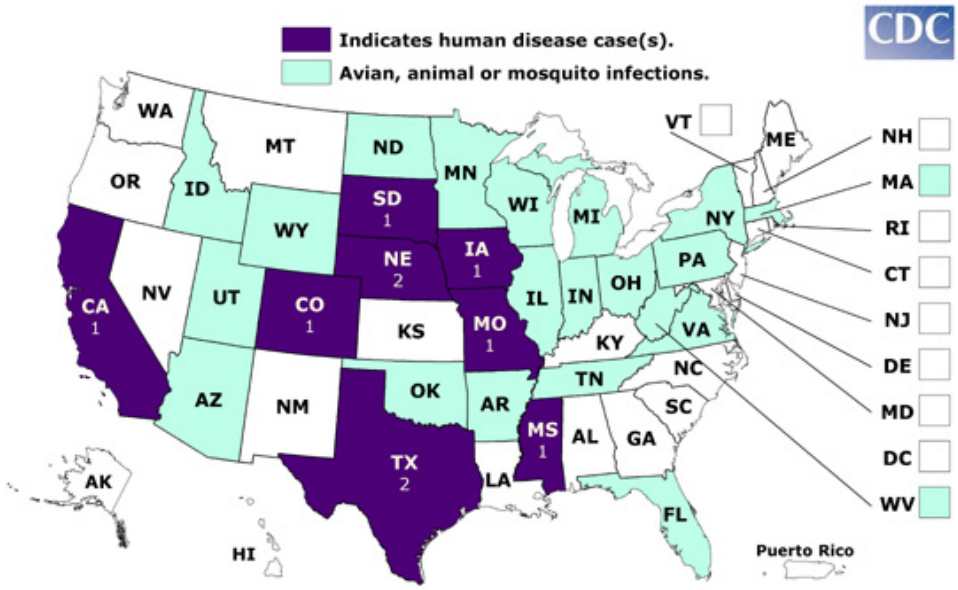
Previous Issue

Subscribe, Submit Articles, Suggestions

Contact Ben Hamilton
benjamin.hamilton@doh.wa.gov

West Nile virus activity in the United States

Surveillance findings reported to CDC, July 11, 2006



National maps and data available at http://www.cdc.gov/ncidod/dvbid/westnile/surv&control.htm.

Are you a mosquito magnet?

By Elizabeth Heubeck, WebMD Feature, Published July 12, 2004, Updated May 25, 2006

You're flipping burgers for the neighborhood barbecue, and the mosquitoes have already begun their feast -- on you. As you swat madly at the pests, you notice other folks seem completely unfazed. Could it be that mosquitoes prefer dining on some humans over others? This may clear up the mystery.

It's true. Mosquitoes do exhibit blood-sucking preferences, say the experts. "One in 10 people are highly attractive to mosquitoes," reports Jerry Butler, PhD, professor emeritus at the University of Florida. Incidentally, it's not dinner they're sucking out of you. Female mosquitoes -- males do not bite people -- need human blood to develop fertile eggs. And apparently, not just anyone's.

While researchers have yet to pinpoint what mosquitoes consider an ideal hunk of human flesh, the hunt is on. "There's a tremendous amount of research being conducted on what compounds and odors people exude that might be attractive to mosquitoes," says Joe Conlon, PhD, technical advisor to the American Mosquito Control Association. With 400 different compounds to examine, it's an extremely laborious process. "Researchers are just beginning to scratch the surface," he says. Scientists do know that genetics account for a whopping 85% of our susceptibility

Web Resources

Washington State Department of Health
www.doh.wa.gov/wnv

Centers for Disease Control and Prevention
www.cdc.gov/ncidod/dvbid/westnile

US Geological Survey & CDC ArboNET maps
http://westnilemaps.usgs.gov/index.html

Washington State University Cooperative Extension
www.wnv.wsu.edu

Washington State Department of Agriculture
www.agr.wa.gov/FoodAnimal/AnimalHealth/Diseases/WestNileVirus/default.htm

Northwest Links

Idaho Department of Health & Welfare
www.westnile.idaho.gov

Oregon Department of Human Services
http://egov.oregon.gov/DHS/ph/acd/diseases/wnile/survey.shtml

British Columbia Center for Disease Control
http://www.bccdc.org/content.php?item=183

to mosquito bites. They've also identified certain elements of our body chemistry that, when found in excess on the skin's surface, make mosquitoes swarm closer.

"People with high concentrations of steroids or cholesterol on their skin surface attract mosquitoes," Butler tells WebMD. That doesn't necessarily mean that mosquitoes prey on people with higher overall levels of cholesterol, Butler explains. These people simply may be more efficient at processing cholesterol, the byproducts of which remain on the skin's surface.

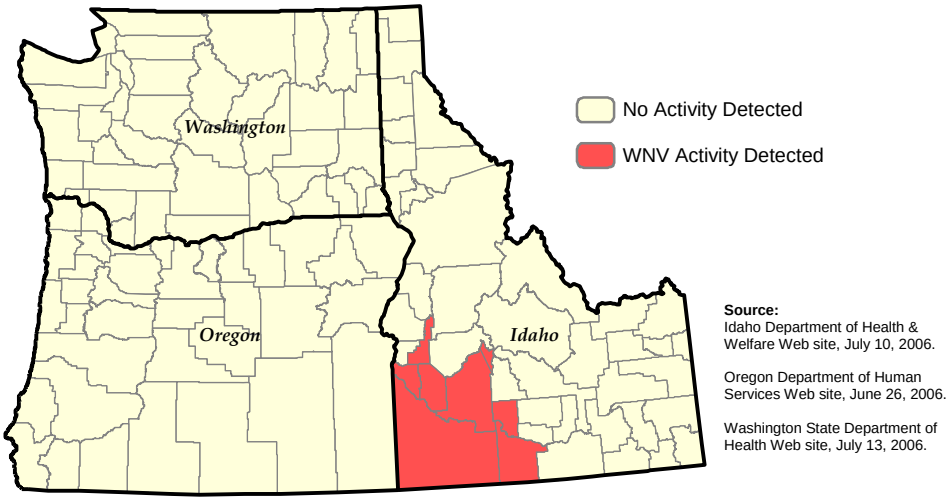
Mosquitoes also target people who produce excess amounts of certain acids, such as uric acid, explains entomologist John Edman, PhD, spokesman for the Entomological Society of America. These substances can trigger the mosquitoes' olfactory sensations, or sense of smell, causing them to launch their "landing" onto unsuspecting victims.

But the process of attraction begins long before the landing. Mosquitoes can smell their dinner from an impressive distance of up to 50 meters, explains Edman. This doesn't bode well for people who emit large quantities of carbon dioxide.

"Any type of carbon dioxide is attractive, even over a long distance," Conlon says. Larger people tend to give off more carbon dioxide, which is why mosquitoes typically prefer munching on adults to small children. Pregnant women are also at increased risk, as they produce a greater-than-normal amount of exhaled carbon dioxide. Movement and heat also attract mosquitoes.

Read the entire article, which delves into the topic of repellents, at http://www.webmd.com/content/Article/90/100719.htm?pagenumber=1.

West Nile virus activity in the northwest, 2006



Idaho has reported their fist human case of WNV disease this year. The Owyhee County woman, who is in her 40's, is recovering after contracting the disease from a mosquito bite. Last year the virus was found in 15 Idaho counties and infected 13 people, all of whom survived.

Educational Resources

The CDC has community education tools available to local and state health departments and other WNV partners.

For free brochure images, print files, and media tools, go to http://www.cdc.gov/ncidod/dvbid/westnile/WNV_onlineCD.html.

The Department of Health has WNV printed materials in English, Spanish, Chinese, Khmer, Korean, Russian, and Vietnamese.

Order free brochures, stuffers, flyers, posters, and bookmarks at http://www.doh.wa.gov/ehp/ts/Zoo/WNV/education.html.

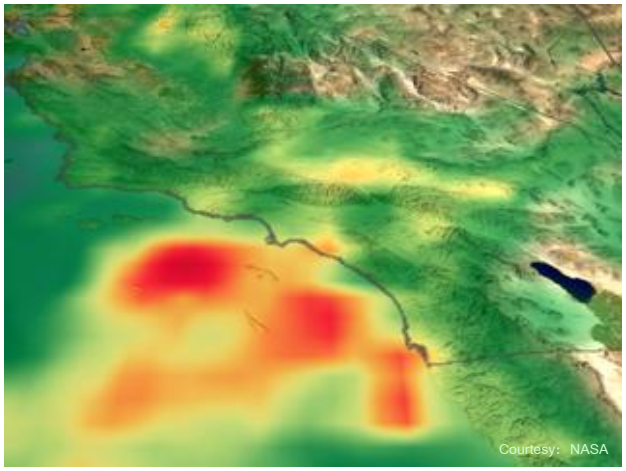
NASA satellite data to help forecast risk of WNV

TheReporter.com, Vacaville, CA, July 7, 2006

The effort to study and track West Nile virus and other mosquito-borne virus activity in California is reaching new heights.

Researchers at the University of California, Davis will use NASA satellite data and remote imagery to forecast the risk of West Nile and other viruses in the state and eventually, the Western U.S., thanks to a $1 million grant.

Research entomologist and professor William K. Reisen of the UC Davis Center for Vectorborne Diseases received the three-year grant from the NASA Earth-Sun Science Applied Sciences Program, in which data from NASA satellites and earth ecosystem models will be integrated into the current statewide arbovirus surveillance systems.



The grant is a collaborative effort linking NASA with UC Davis researchers, the California Department of Health Services, the Mosquito Vector Control Association of California and the Centers for Disease Control and Prevention.

"The purpose of this grant is to use NASA remote sensing products in conjunction with other surveillance measures of arbovirus activity to forecast the risk of arbovirus activity in California and other Western states," Reisen explained in a press release.

"Using data collection, reporting and mapping schemes developed by the Environmental Assessment and Information Technology program at UC Davis, NASA Ames will incorporate landscape analysis from remotely sensed satellite imagery to help direct mosquito control efforts to prevent outbreaks of mosquito-borne pathogens such as West Nile virus."

Reisen said the collaboration will enable better monitoring and management of West Nile Virus and other diseases transmitted by Culex mosquitoes. The collaboration also may help researchers keep tabs on other emerging viruses, Reisen said. West Nile last year killed 19 people in California and infected more than 900 others. Officials also diagnosed 456 horses in the state with the mosquito-borne disease; 200 of them died or were euthanized.

Tracking the virus will allow public health officials to have advance warning of potential hotspots, said Reisen.

Read the July 6, 2006 UC Davis press release at http://www.vetmed.ucdavis.edu/whatsnew/article.cfm?id=1604.

DOH WNV Contacts

Toll Free Info Line
1-866-78VIRUS

Publication Requests
Cyndi Free
360-236-3384
cyndi.free@doh.wa.gov

Mosquito and Bird Surveillance
Jo Marie Brauner
360-236-3064
jomarie.brauner@doh.wa.gov

Horse Surveillance
Ron Wohrle
360-236-3369
ron.wohrle@doh.wa.gov

Aquatic Mosquito Control NPDES Permit
Ben Hamilton
360-236-3364
benjamin.hamilton@doh.wa.gov

WNV in Humans
Local Health Jurisdiction
or
DOH Communicable Disease Epidemiology
206-418-5500 or
877-539-4344

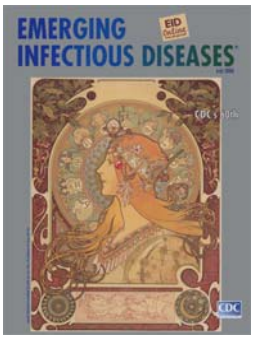
News Releases/ Media Response Assistance
Donn Moyer
360-236-4076
donn.moyer@doh.wa.gov
or
Tim Church
360-236-4077
tim.church@doh.wa.gov

WNV Program Management
Maryanne Guichard
360-236-3391
maryanne.guichard@doh.wa.gov

WNV Coordinator
Dorothy Tibbetts
360-236-3361
dorothy.tibbetts@doh.wa.gov

Journal articles

CDC, Emerging Infectious Diseases, Volume 12, Number 7 – July Issue



Follow-up of 2003 Human West Nile Virus Infections, Denver, Colorado, J.L. Patnaik et al.
http://www.cdc.gov/ncidod/eid/vol12no07/05-1399.htm

Human West Nile Virus Infection, Catalonia, Spain, D. Bofill et al.
http://www.cdc.gov/ncidod/eid/vol12no07/06-0164.htm

Washington environmental surveillance summary

Reported to DOH as of July 13, 2006

	Horses*		Birds**		Sentinel Flocks***		Mosquito Pools****	
County	Tested	Positive	Tested	Positive	Tested	Positive	Tested	Positive
Adams	0	0	1	0	0	0	0	0
Asotin	0	0	0	0	0	0	0	0
Benton	1	0	3	0	136	0	23	0
Chelan	0	0	2	0	0	0	0	0
Clallam	0	0	0	0	0	0	0	0
Clark	1	0	0	0	0	0	0	0
Columbia	0	0	1	0	0	0	0	0
Cowlitz	0	0	3	0	0	0	0	0
Douglas	0	0	0	0	0	0	0	0
Ferry	0	0	0	0	0	0	0	0
Franklin	0	0	1	0	0	0	0	0
Garfield	0	0	0	0	0	0	0	0
Grant	0	0	1	0	0	0	0	0
Grays Harbor	0	0	3	0	0	0	0	0
Island	0	0	0	0	0	0	0	0
Jefferson	0	0	3	0	0	0	0	0
King	0	0	1	0	0	0	0	0
Kitsap	0	0	0	0	0	0	0	0
Kittitas	0	0	1	0	0	0	0	0
Klickitat	0	0	1	0	0	0	0	0
Lewis	0	0	1	0	0	0	0	0
Lincoln	0	0	0	0	0	0	0	0
Mason	0	0	5	0	0	0	0	0
Okanogan	0	0	0	0	0	0	0	0
Pacific	0	0	0	0	0	0	0	0
Pend Oreille	0	0	0	0	0	0	0	0
Pierce	0	0	11	0	0	0	0	0
San Juan	1	0	0	0	0	0	0	0
Skagit	0	0	2	0	0	0	0	0
Skamania	0	0	0	0	0	0	0	0
Snohomish	1	0	8	0	0	0	2	0
Spokane	1	0	3	0	0	0	0	0
Stevens	0	0	2	0	0	0	0	0
Thurston	0	0	1	0	0	0	0	0
Wahkiakum	0	0	0	0	0	0	0	0
Walla Walla	1	0	3	0	0	0	0	0
Whatcom	0	0	0	0	0	0	0	0
Whitman	0	0	3	0	0	0	0	0
Yakima	0	0	1	0	28	0	58	0
Totals	6	0	61	0	164	0	83	0

*A total of 7 horses have been tested for West Nile virus. An additional 1 horse tested negative, but were not included in the table because county/state information was not available. WADDL Report Date: June 13, 2006.
**A total of 62 birds have been tested for West Nile virus; 1 specimen was from out-of-state.
WADDL Report Date: July 6, 2006.
*** Sentinel Chicken Sera tested by Benton MCD Report Date: July 11, 2006.
**** Pools tested by WADDL Report Date: June 1, 2006 and Benton MCD Report Date: July 11, 2006.

View the WNV Avian Mortality Report to look up a submitted bird's case status using the corresponding county and local identification number at http://www.doh.wa.gov/ehp/ts/Zoo/WNV/Newsletters/dbreport/dbreport.pdf.